Patent claims

1. Method to generate a print image on a carrier material (40),

in that the surface of a print carrier (40) is coated with an ink-repelling or ink-attracting layer (54),

in a structuring process, ink-attracting regions and ink-repelling regions are generated corresponding to the structure of the print image to be printed,

ink that adheres to the ink-attracting regions and that is not absorbed by the ink-repelling regions is applied on the surface,

the applied ink is transferred onto the carrier material (40) in the further course,

before a new structuring process on the same surface of the print carrier (10), this surface is cleaned and re-coated with an ink-repelling or ink-attracting layer (54),

and in that, before the application of the ink-repelling or ink-attracting layer (54), a wetting-aiding substance (52) is applied in molecular layer thickness on the surface of the print carrier (10).

2. Method according to claim 1, in that a surfactant with hydrophilic molecule sections is used as a wetting-aiding substance (52).

3. Method according to claim 1 or 2, in that the layer thickness for the wetting-aiding substance (52) is smaller than 0.1 μm.

4. Method according to any of the preceding claims, in that a fountain solution (54) based on water is used as an ink-repelling layer.

5. Method according to any of the preceding claims, in that the layer thickness of the ink-repelling layer (54) is smaller than 1 μm.

6. Method according to any of the preceding claims, in that the surface of the print carrier (10) has a roughness that is smaller than the roughness used in the standard offset printing method.

7. Method according to claim 6, in that the average roughness R_Z is smaller than 10 μm, preferably smaller than 5 μm.

8. Method according to claim 6 or 7, in that the average roughness value R_a of the surface of the print carrier (10) is smaller than 2 μm, preferably smaller than 1 μm.

9. Method according to any of the preceding claims, in that digitally-controlled radiation is used for structuring.

10. Method according to claim 9, in that the radiation of a laser system, a laser, laser diodes, LEDs or a laser diode array is used.

11. Method according to any of the preceding claims, in that a plurality of printing events ensues before a restructuring of the surface, whereby the print carrier (10) is inked multiple successive times.

12. Method according to any of the preceding claims, in that the surface of the print carrier (10) is a continuous band or a generated cylinder surface.

13. Method according to any of the preceding claims, in that an ink separation ensues before the transfer of the ink onto the carrier material (40).

14. Device to generate a print image on a carrier material (40),

in which means are provided via which

the surface of a print carrier (40) is coated with an ink-repelling or ink-attracting layer (54),

in a structuring process, ink-attracting regions and ink-repelling regions are generated corresponding to the structure of the print image to be printed,

ink that adheres to the ink-attracting regions and that is not absorbed by the ink-repelling regions is applied on the surface,

the applied ink is transferred onto the carrier material (40) in the further course,

before a new structuring process on the same surface of the print carrier (10), this surface is cleaned and re-coated with an ink-repelling or ink-attracting layer (54),

and via which, before the application of the ink-repelling or ink-attracting layer (54), a wetting-aiding substance (52) is applied in molecular layer thickness on the surface of the print carrier (10).

15. Device according to claim 14, in that a surfactant with hydrophilic molecule sections is used as a wetting-aiding substance (52).

16. Device according to claim 14 or 15, in that the layer thickness for the wetting-aiding substance (52) is smaller than 0.1 μm.

17. Device according to any of the preceding claims, in that a fountain solution (54) based on water is used as an ink-repelling layer.

18. Device according to any of the preceding claims, in that the layer thickness of the ink-repelling layer (54) is smaller than 1 μm.

19. Device according to any of the preceding claims, in that the surface of the print carrier (10) has a roughness that is smaller than the roughness used in the standard offset printing method.

20. Device according to claim 19, in that the average roughness R_Z is smaller than 10 μm, preferably smaller than 5 μm.

21. Device according to claim 19 or 20, in that the average roughness value R_a of the surface of the print carrier (10) is smaller than 2 μm, preferably smaller than 1 μm.

22. Device according to any of the preceding claims, in that digitally-controlled radiation is used for structuring.

23. Device according to claim 22, in that the radiation of a laser system, a laser, laser diodes, LEDs or a laser diode array is used.